

Serial No.: 10/645,257
Examiner: Nittaya Juntima

In the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A packet router that supports multi-time scale resource management, comprising:

a management agent ("MA") that manages a differentiated services policy information database operable to store policies on forwarding packets in the packet router;

a resource server system ("RSS") that controls forwarding of packets in the packet router based on adaptive selections of policies from the policy information database;

a flow measurement system ("FMS") that monitors packet flows through the packet router and generates statistic reports which affect the RSS selection of control;

wherein the FMS includes a monitor resource controller ("MRC") that receives adaptive selections of policies from the policy information database; and

a hardware forwarding engine ("HFE") that receives and forwards packets in response to the RSS controls.

2. (currently amended) The packet router of claim 1 wherein the MA resides in a management plane of a[n] communications network.

3. (original) The packet router of claim 1 wherein the RSS resides in a control plane of a communications network.

4. (original) The packet router of claim 1 wherein the HFE resides in a data plane of a communications network.

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5. (original) The packet router of claim 4 wherein the communications network comprises an internet protocol ("IP") network.

6. (currently amended) The packet router of claim 1 wherein the FMS ~~includes a monitor resource controller ("MRC") for receiving adaptive selections of policies from the policy information database and for distributing~~ distributes the statistics reports generated by the FMS.

7. (original) The packet router of claim 1 wherein the FMS includes a monitor resource abstraction library ("MRAL") that functions as a real-time monitor executive and generates the statistics reports.

8. (original) The packet router of claim 1 wherein the FMS includes a monitor data collector/data source controller ("MDC") for receiving data collected at observation points of the HFE.

9. (currently amended) A system for supporting multi-time scale resource management in a packet router, the system comprising:

means for managing a differentiated services policy information database that stores policies on forwarding packets in the packet router;

means for controlling forwarding of packets in the packet router based on adaptive selections of policies from the policy information database;

means for monitoring packet flows through the packet router based on an interpreted service level agreement related to the adaptive selections of policies from the policy information database;

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means for generating statistic reports that affect a [the] resource server system[s]
selection of control; and

means for receiving and forwarding packets in response to the resource server system
controls.

10. (original) The system of claim 9 wherein the means for managing is a management
agent ("MA").

11. (original) The system of claim 9 wherein the means for controlling forwarding of
packets in the packet router is a resource server system ("RSS").

12. (original) The system of claim 9 wherein the means for receiving and forwarding is
a hardware forwarding engine ("HFE").

13. (original) The system of claim 9 wherein the means for monitoring is a flow
measurement system ("FMS").

14. (original) The system of claim 13 wherein the means for generating statistic reports
is a flow measurement system ("FMS").

15. (original) The system of claim 14 wherein the FMS further comprises:
an FMS reports buffer for buffering statistics reports generated by the FMS;
a policy information buffer; and
a dynamic component for controlling adaptation of the packet router to dynamic service
requirements and resource conditions.

16. (currently amended) The system of claim 15 wherein the dynamic component
[DC] further comprises:

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a monitor resource controller ("MRC") for receiving adaptive selections of policies from the policy information database and for distributing the statistics reports generated by the FMS;

a monitor resource abstraction library ("MRAL") that functions as a real-time monitor executive and generates the statistics reports; and

a monitor data collector/data source controller ("MDC") for receiving data collected at observation points of the HFE.

17. (currently amended) A method of providing multi-time scale resource management in a packet router, the method comprising:

managing a differentiated services policy information database that stores policies on forwarding packets in the packet router;

controlling forwarding of packets in the packet router based on adaptive selections of policies from the policy information database;

monitoring packet flows through the packet router based on an interpreted service level agreement related to the adaptive selections of policies from the policy information database;

generating statistic reports that affect the forwarding of packets in the packet router; and

receiving and forwarding packets in response to the forwarding of packets in the packet router.

18. (original) The method of claim 17 wherein the managing is performed by a management agent.

19. (original) The method of claim 17 wherein the controlling forwarding of packets in the packet router is performed by a resource server system.

20. (original) The method of claim 17 wherein the monitoring is performed by a flow measurement system.

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21. (original) The method of claim 17 wherein the generating statistic reports is performed by a flow measurement system.

22. (original) The method of claim 17 wherein the receiving and forwarding is performed by a hardware forwarding engine.